to 30 holes, each hole corresponding to one reactor tube, each hole having a diameter not greater than 95% of the inner diameter of its corresponding reactor tube and not smaller than 1.1 times the greatest dimension of a single particle to be loaded into said corresponding reactor tube, the polygonal plates also comprising means for holding the holes in correspondence with the respective reactor tubes, and wherein each plate is displaced from adjacent plates by an inter-plate spacing having a width not greater than the smallest dimension of a single particle to be loaded into said reactor, said inter-plate spacing for collecting dust and partial particles;

B1 cont'd

b) pouring the particles over the combined polygonal plates covering the tube-sheet;

c) sweeping the particles through the holes in the plates into the respective reactor tube, whereby the particles fill the reactor tubes in a uniform manner and bridging is avoided;

d) removing residual particles and any dust remaining on the plates and in the inter-plate spacing; and

e) removing the loading device.

2. (Amended) The method according to claim 1, wherein step c) is performed by a sweeping mechanism, comprising a sweeping element connected to an arm, the arm rotating around a central axis.

B2

3. (New) A method for loading solid particles into a multi-tube reactor, comprising:

a) positioning a plurality of loading devices on top of an upper tube-sheet of the multi-tube reactor, whereby the loading devices rest on and substantially cover at least a portion of the upper tube-sheet and provide a spacing between adjacent loading devices having a width not greater than the smallest dimension of a single particle to be loaded into the multi-tube reactor, the spacing for collecting dust and partial particles, wherein each loading device comprises:

an aperture that corresponds to a corresponding reactor tube and has a diameter not greater than 95% of the inner diameter of the corresponding reactor tube and not smaller than 1.1 times the greatest dimension of a single particle to be loaded into the corresponding reactor tube; and

means for holding the aperture in correspondence with the corresponding reactor tube;

b) pouring the particles over at least a portion of the plurality of loading devices covering the tube-sheet;

c) sweeping the particles through the apertures in the loading devices into the corresponding reactor tubes, whereby the particles fill the reactor tubes in a uniform manner and bridging is avoided;

d) removing residual particles and any dust remaining on the loading devices and in the spacing between adjacent loading devices; and

e) removing the plurality of loading devices.

4. (New) A method for loading solid particles into a multi-tube reactor, comprising:

a) positioning a plurality of loading devices on top of an upper tube-sheet of the multi-tube reactor, whereby the loading devices substantially cover at least a portion of the upper tube-sheet and each loading device has a shape that provides a spacing between adjacent loading devices having a width not greater than the smallest dimension of a single particle to be loaded into the multi-tube reactor, the spacing for collecting dust and partial particles;

b) pouring the particles over at least a portion of the plurality of loading devices covering the tube-sheet;

c) sweeping the particles through apertures in the loading devices into reactor tubes of the multi-tube reactor, whereby a size of the apertures is selected for filling the reactor tubes with the particles in a uniform manner and avoiding bridging;

d) removing residual particles and any dust remaining on the loading devices and in the spacing between adjacent loading devices; and

e) removing the plurality of loading devices.

5. (New) The method of claim 4, wherein the positioning the plurality of loading devices comprises inserting fixing means of the loading devices into a top of reactor tubes of the multi-tube reactor to provide for alignment of apertures in the loading device with corresponding reactor tubes.